# PORT OF ANCHORAGE
# PRE-PROPOSAL CONFERENCE
# OCTOBER 18-19, 2006

Photo by
Port of Anchorage

Corps of Engineers – Alaska District

US Army Corps
of Engineers
Alaska District

# WELCOME

AK

- Emergency exits, cafeteria, restrooms, smoking areas
- Building Security
- Handout
- Agenda
- Introductions

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# Contracting Overview

AK

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# GROUND RULES

AK

- Be sure you have signed in.
- Point of Contact for this solicitation is Christine Dale  Contract Specialist, (907) 753-5618, e-mail: christine.a.dale@poa02.usace.army.mil
- Contracting Officer is Sandra Davidson.
- Questions for discussion may be asked informally, but please submit them in writing on the a sheet of paper to ensure incorporation into the meeting minutes. (Please submit any questions to Christine anytime during the day.)

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# Sandie's Dredges

AK

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# Contracts 2008 thru 2013

AK

- 2008 – 2009 Maintenance Dredging
  - Outcome of this meeting

- 2009 – 2011 Harbor Expansion (Virgin and Maintenance Matl.) Dredging (-35 ft MLLW)
  - Provided funding becomes available

- 2012 – 2013 Deepening Dredging (-45 ft MLLW)
  - Pending approval of Feasibility Study and funding

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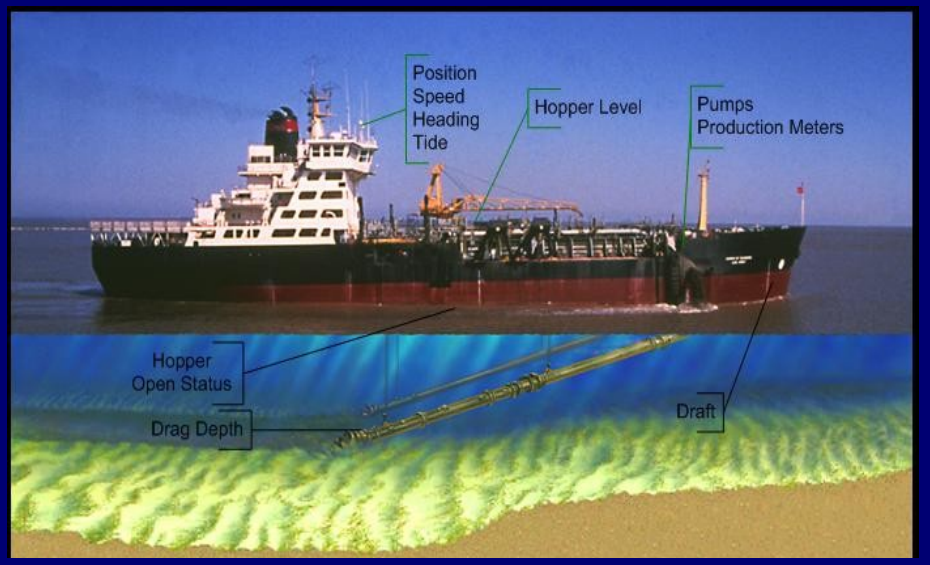
# Contract Requirements 2008 - 2009

AK

- Firm fixed price, “Best Value” RFP versus IFB
- Clamshell and Hopper Dredging
- Base (2008) + 1 Option Year (2009)

- 2 Million Cubic Yards in 2008.
- 3 Million Cubic Yards in 2009, (if awarded).
- Hydrographic Surveys.



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# Solicitation Process

AK

- Basic RFP Procedures
- Source Selection Process
  - Evaluation Criteria
  - Source Selection Team
- Best Value:  What is it?
- No Continuing Contract Clause

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# Solicitation Schedule

AK

- Pre-solicitation Meeting 18-19 Octob
- Issue Final Solicitation Pkg o/a 19 Nov.
- Proposal Due Date o/a 8 Jan.
- Award o/a 11 Feb.
- Dredging Starts o/a 1-15 May

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# Dredging Overview

AK

Kim Kuk
Project Manager

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Alaska District

# Project History

AK

- Authorized by the Rivers and Harbors Act, 3 July 1958, as amended.
- First dry cargo berth completed in 1961 with –35 feet MLLW approach depth and –10 feet MLLW at the dock face.
- Dock extended 1000 feet in 1977 (PL 94-587) to current 3000 foot length and depth at –35 feet MLLW.
- New petroleum dock completed in 1993.
- Currently serves as the main supply and distribution center for the south-central and interior Alaska including two military bases that lie within the Municipality of Anchorage.
- Designated a National Strategic Port in August 2004

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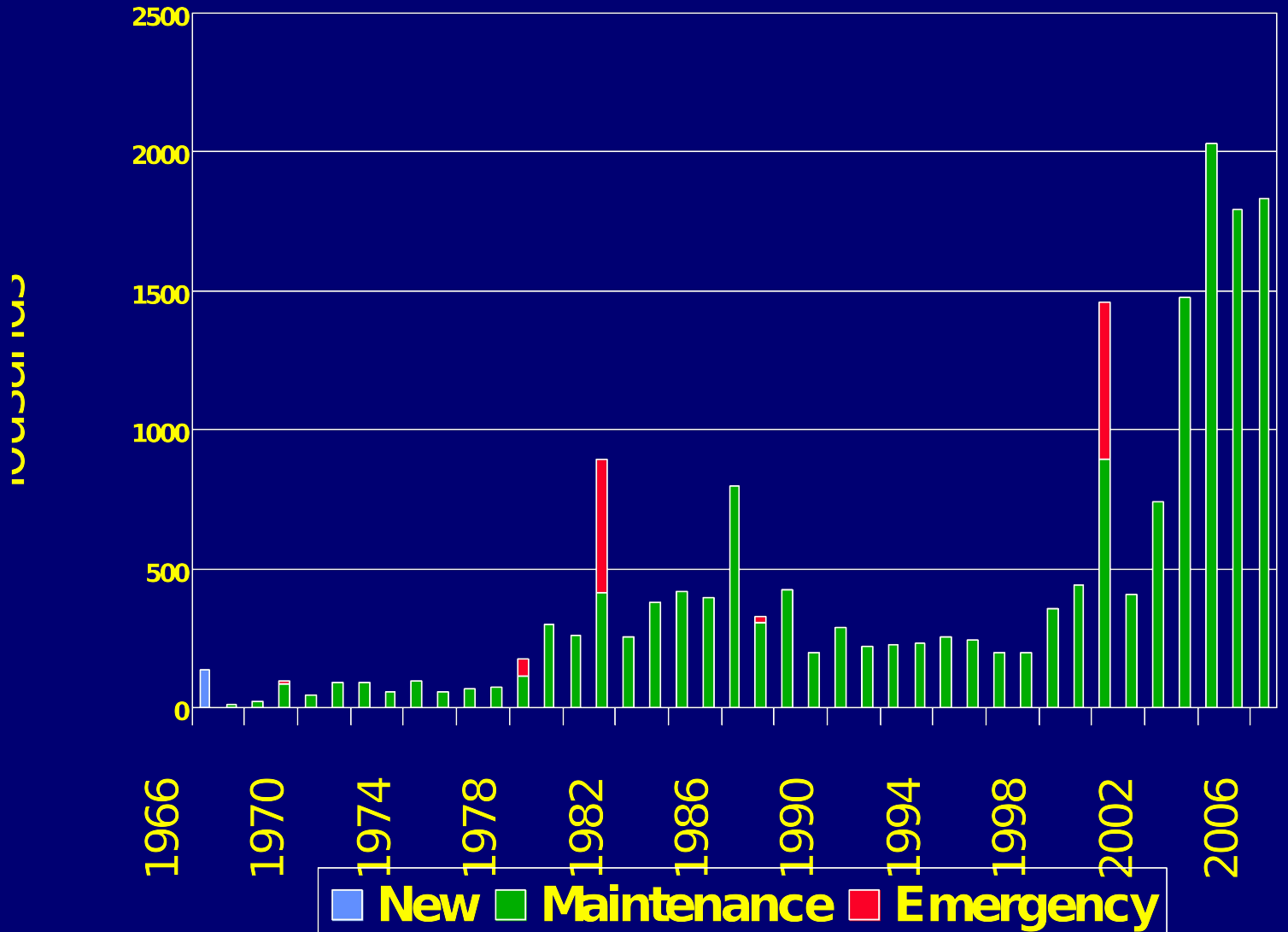
# Historical Dredge Quantities

AK



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# Shoaling Patterns in Project Area

## STANDARD COLOR CHART LEGEND

AK

16 JULY 2004 INTERIM 13

| Range Beg. | Range End | Color | Area | Percent |
|---|---|---|---|---|
| -44.00 | -43.00 | | 238592.00 | 3.7 |
| -43.00 | -42.00 | | 270368.00 | 4.2 |
| -42.00 | -41.00 | | 334752.00 | 5.1 |
| -41.00 | -40.00 | | 333888.00 | 5.1 |
| -40.00 | -39.00 | | 373152.00 | 5.7 |
| -39.00 | -38.00 | | 411232.00 | 6.3 |
| -38.00 | -37.00 | | 436032.00 | 6.7 |
| -37.00 | -36.00 | | 683328.00 | 10.5 |
| -36.00 | -35.00 | | 677344.00 | 10.4 |
| -35.00 | -34.00 | | 627904.00 | 9.6 |
| -34.00 | -33.00 | | 759744.00 | 11.7 |
| -33.00 | -32.00 | | 639392.00 | 9.8 |
| -32.00 | -31.00 | | 441600.00 | 6.8 |
| -31.00 | -30.00 | | 281376.00 | 4.3 |

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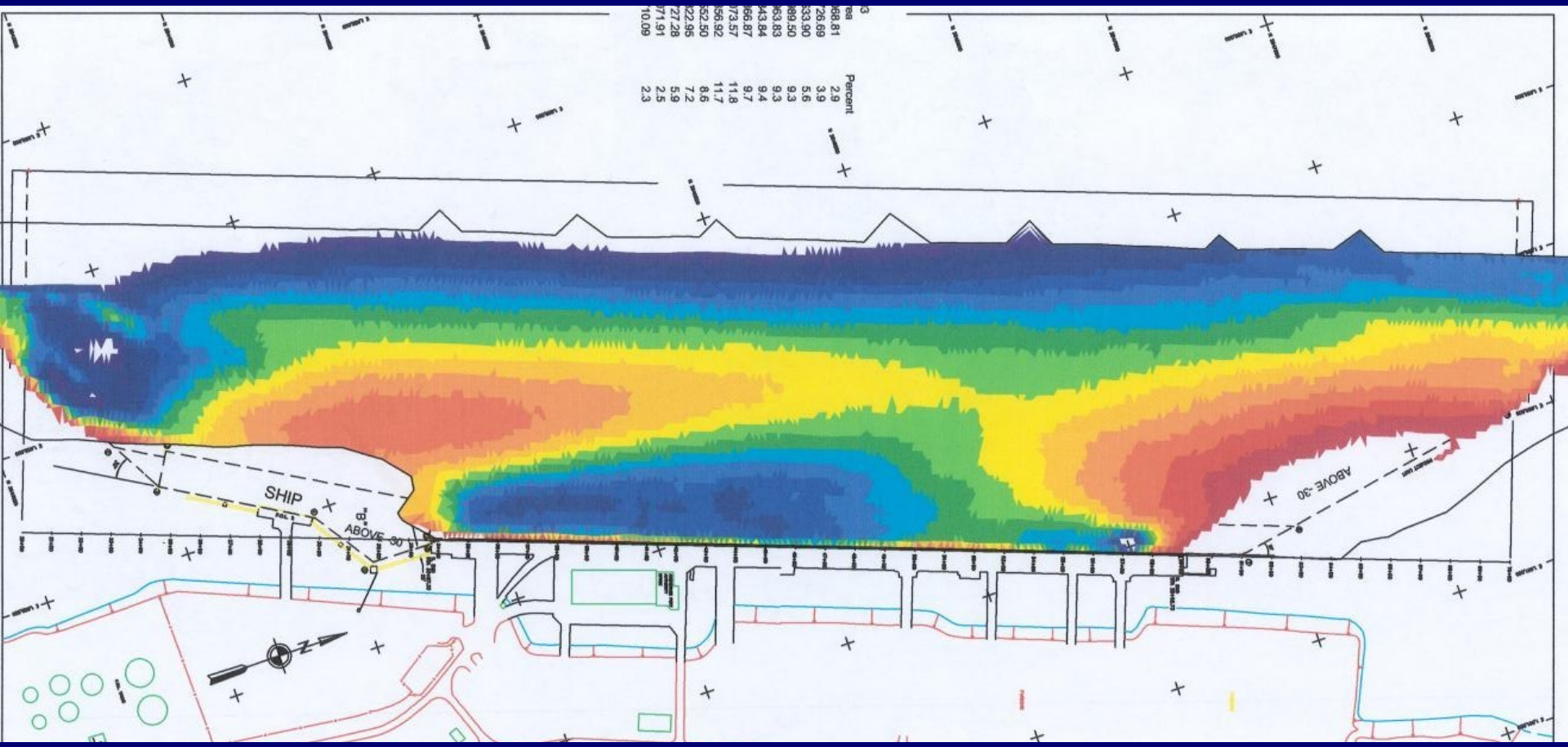
# Typical
# Pre-dredge Conditions

AK



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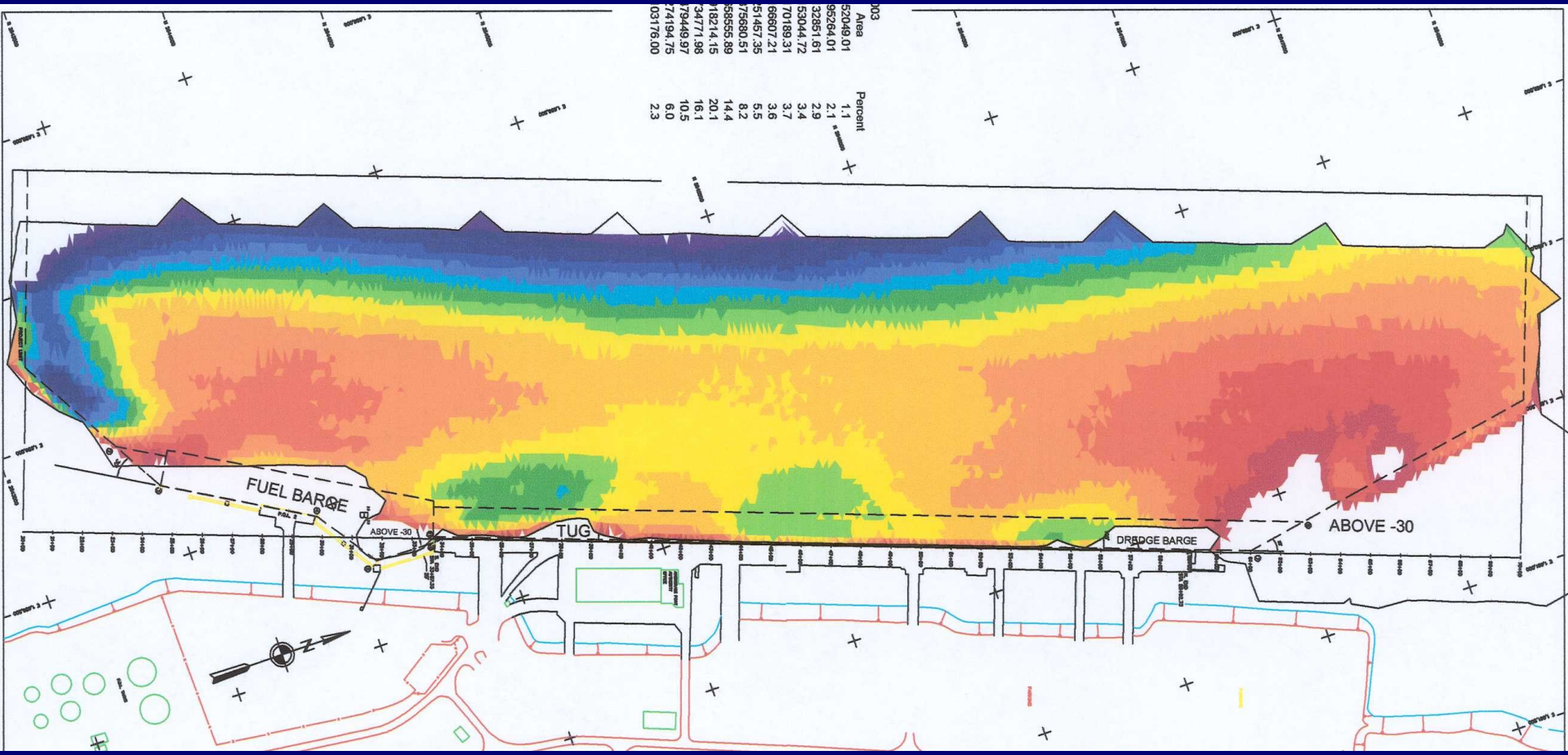
# 10 October 2003
# 37 days after Hopper Dredging

AK



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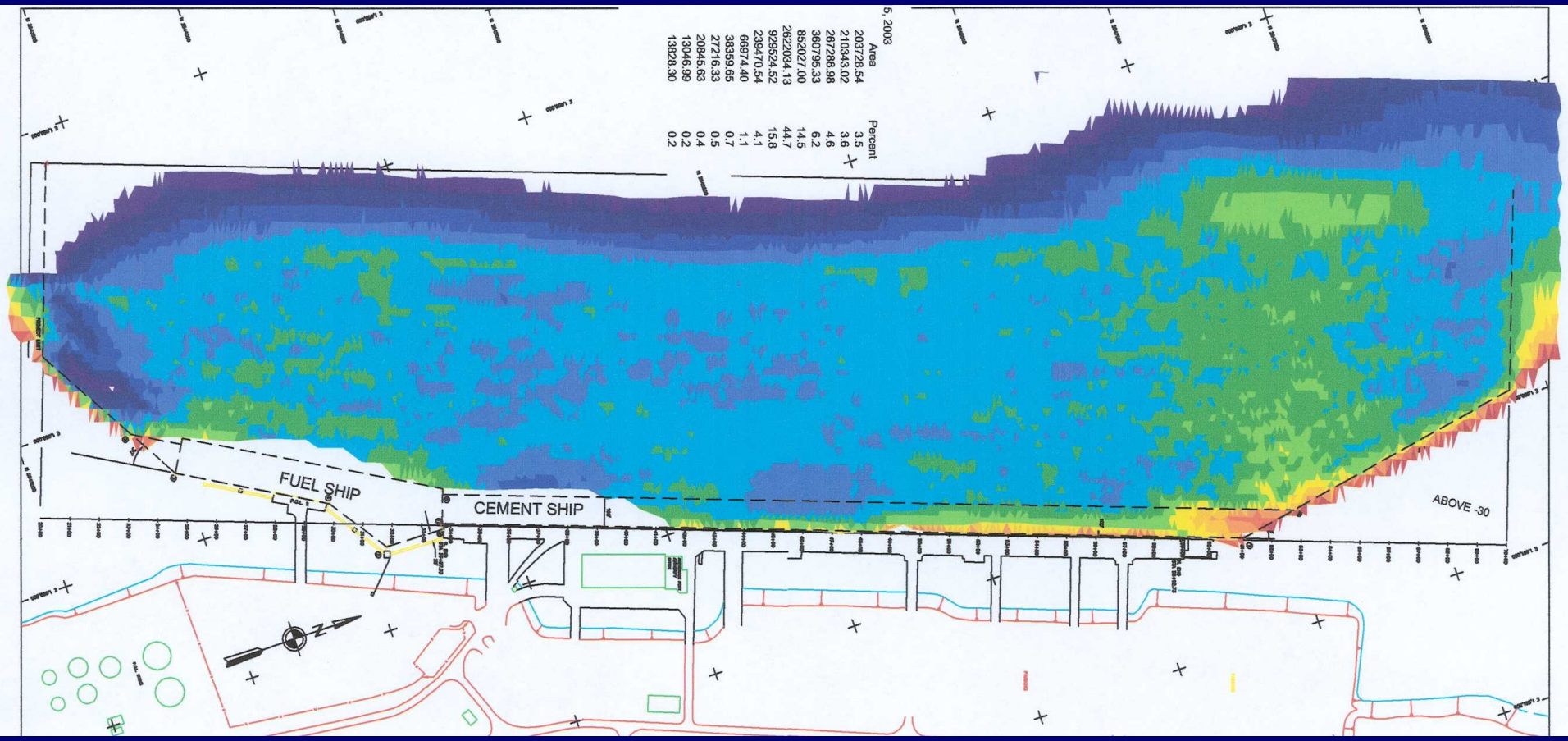
# Typical Post-Dredge Condition
# (What we want)

AK



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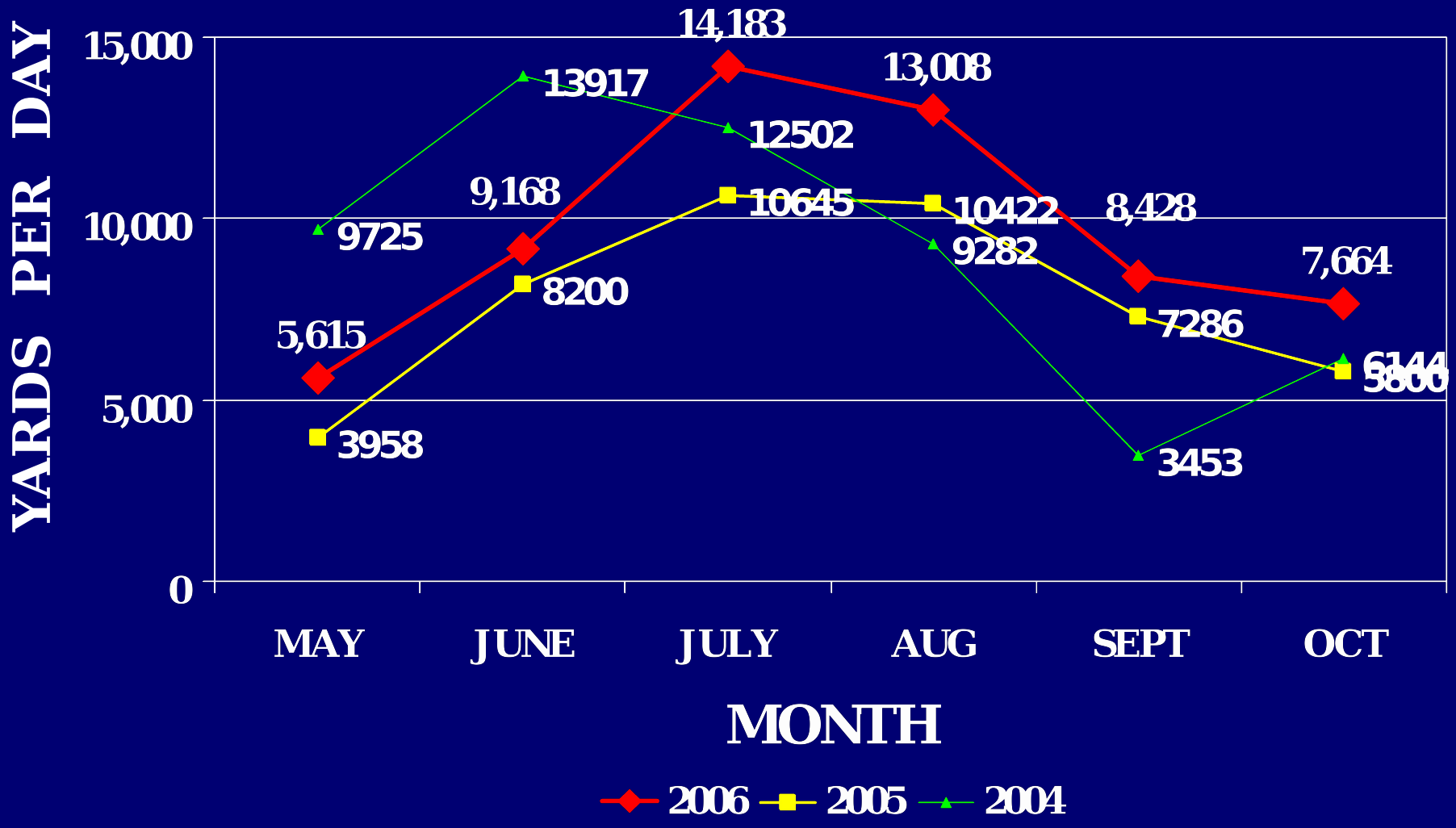
# AVERAGE SHOALING RATES
## 2005 vs. 2006

AK



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# Port Security

AK

- Strategic Port
- Coordination w/ Coast Guard
  - Stand off distances when military ships are in Port.
- Access Requirements to Port
  - Personnel Training
  - Photo IDs
  - Security Checks

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# Past Equipment Used Successfully

AK

## Clamshell Dredges

- 7 – 14 CY Buckets
  - Weight > 50,000 LBS
- 1500 CY Dump Scows (Typical)
- Spuds and Cable Anchoring Systems

## Hopper Dredges

- ESSAYONS
- SUGAR ISLAND
- WESTPORT

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# Character Of Materials

AK

- Above Max. Payline, Loose to very-dense cohesive sandy-silty-clay or sandy-clayey-silt
- Varying thicknesses of undisturbed stiff to very stiff blue-gray clay, dense to very dense sands, and coarse sandy gravel below Maximum Payline.
- Minor debris may be encountered along the dock face.

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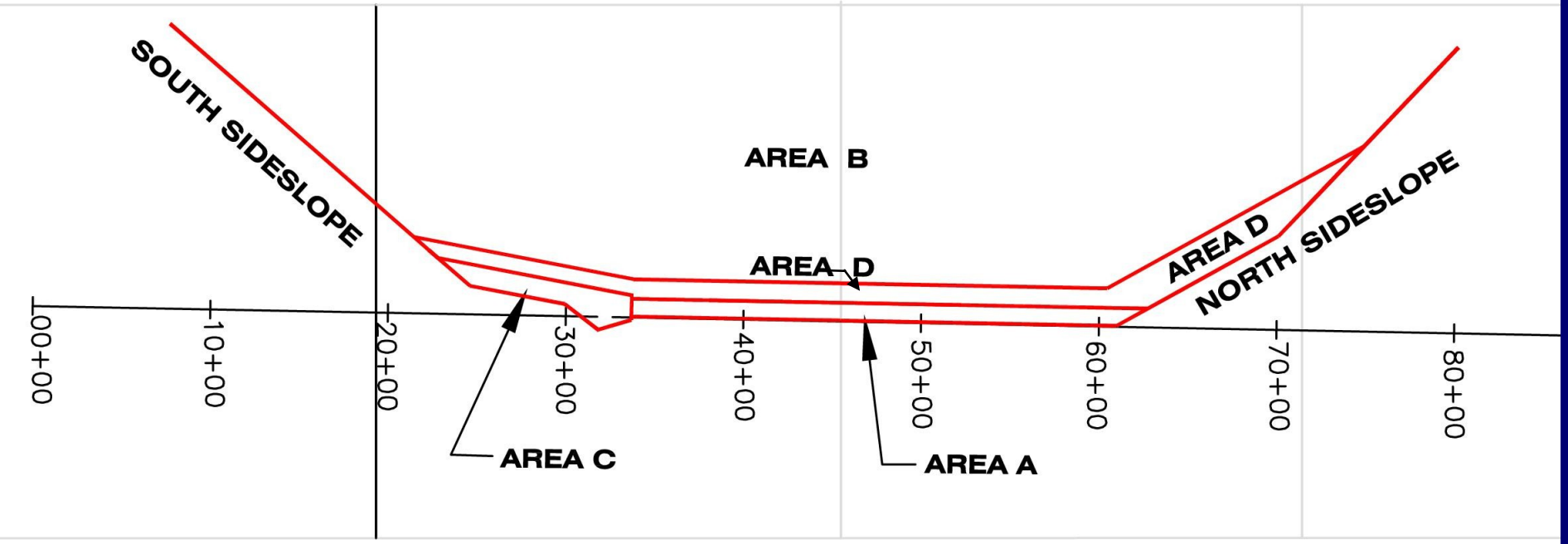
# Project Areas this Contract

AK




SHEET 1 OF 4

SHEET 2 OF 4

SHEET 3 OF 4

SHE 4 O

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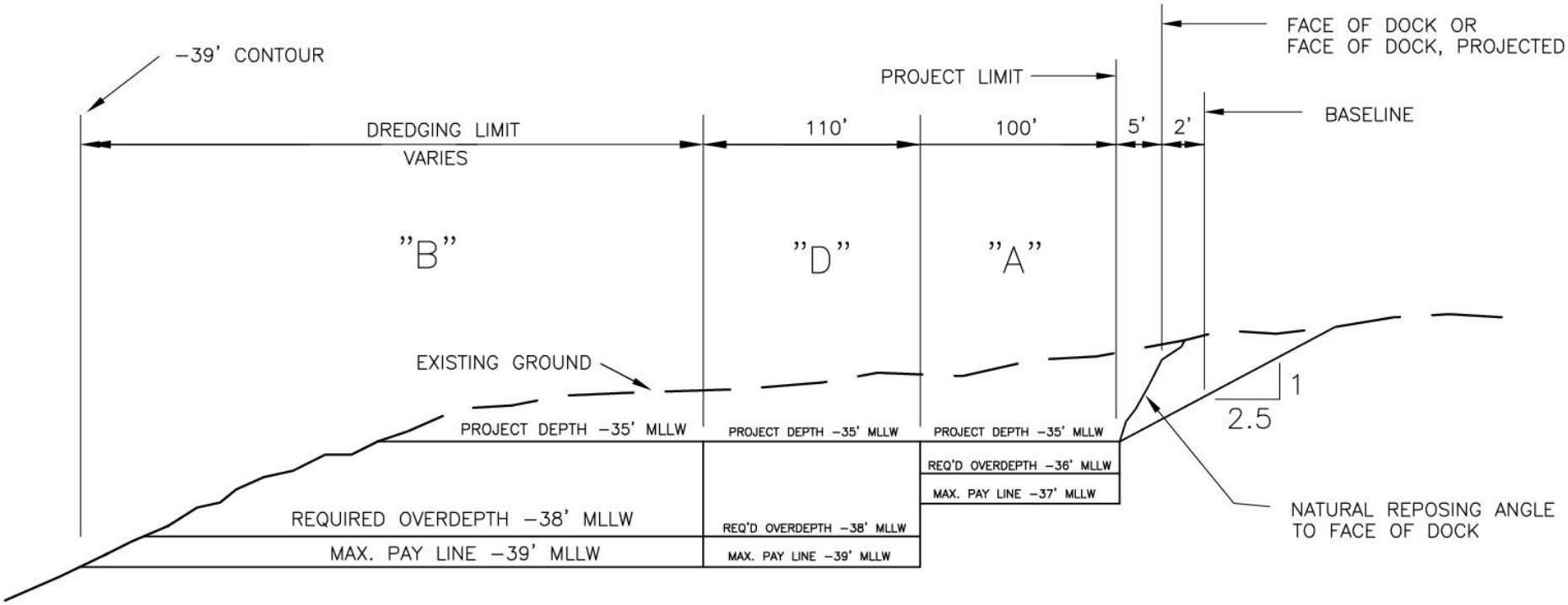
# Dredging Cross Sections

AK




TYPICAL SECTION D
NOT TO SCALE 2 3 5

CORNER (11) TO CORNER (7)

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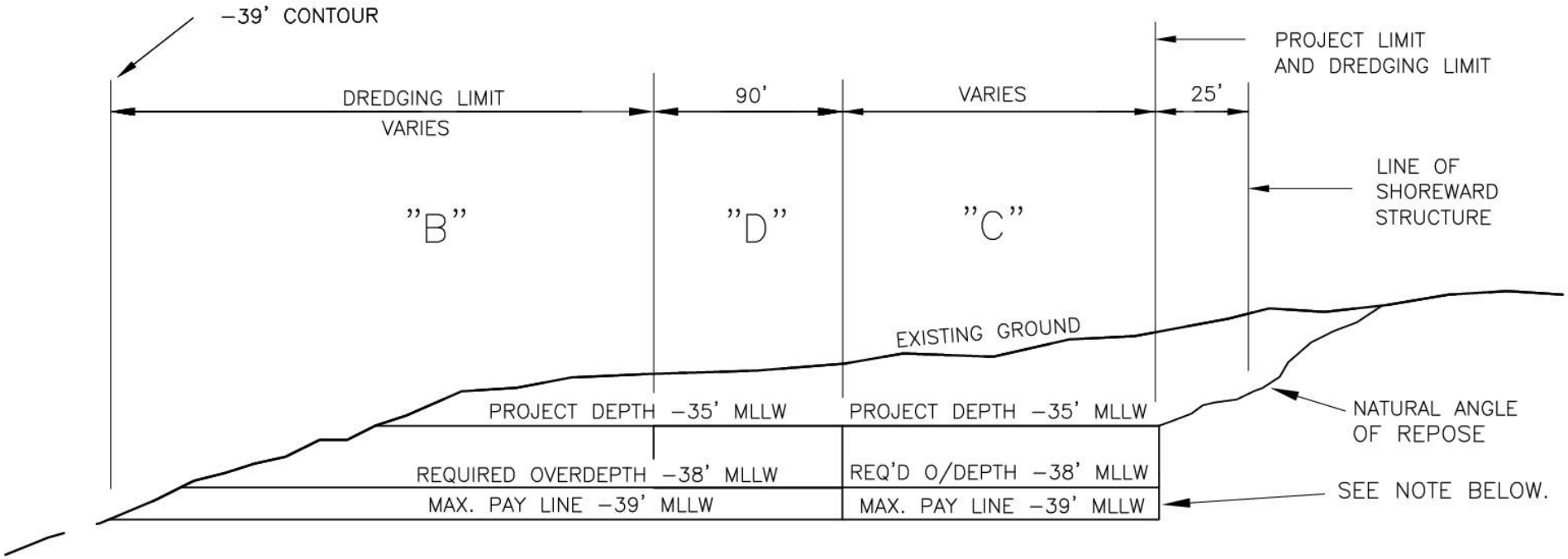
# Dredging Cross Sections

AK




TYPICAL SECTION C 2 5

NOT TO SCALE

CORNER (2) TO CORNER (3) TO CORNER (4)
TO CORNER (5) TO CORNER (10) TO CORNER (11)

NOTE: WOODEN PILING MAY BE ENCOUNTERED NEAR PROJECT CORNERS 4−5−10.

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# Equipment for this Contract

AK

- 2008: Hopper for 1,400,000 CY & Clam for 600,000 CY

- 2009: Hopper for 1,400,000 CY & Clam for 600,000 CY. If a revised dredging permit allows dredging in excess of 2,000,000 CY, options may be awarded.

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# Payment Methods

AK

- **SURVEYS (Hopper only)**

**OR**

- **DAILY RATE (Hopper only)**

- **BARGE COUNT (Clam only)**

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# Payment By Surveys

AK

| Item No. | Description | Unit Quantity | Unit | Price | Amount |
|---|---|---|---|---|---|
| 0002. | Mobilization and Demobilization, 2008, complete | | | | |
| 0002AA. | Hopper Dredge | 1 | Job | Lump Sum | $_____ |
| 0002AB. | Clamshell Dredge | 1 | Job | Lump Sum | $_____ |
| 0003. | Hopper Dredging and Disposal, 2008, complete | | | | |
| 0003AA. | First 700,000 CY | 700,000 | CY | $_____ | $_____ |
| 0003AB. | All Over 700,000 CY | 700,000 | CY | $_____ | $_____ |
| 0004. | Clamshell Dredging and Disposal, 2008, complete | | | | |
| 0004AA. | First 300,000 CY | 300,000 | CY | $_____ | $_____ |
| 0004AB. | All Over 300,000 CY | 300,000 | CY | $_____ | $_____ |
| 0005. | Pre-Dredge, Post-Dredge, and Intermediate Hydrographic Surveys, 2008, complete | | | | |
| 80 | EA | | | $_____ | $_____ |

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# Payment By Surveys

AK

| Item No. | Description | Unit Quantity | Unit | Price | Amount |
|---|---|---|---|---|---|
| 0008. | Optional Mobilization and Demobilization, 2009, complete | | | | |
| 0008AA. | Hopper Dredge | 1 | Job | Lump Sum | $_____ |
| 0008AB. | Clamshell Dredge | 1 | Job | Lump Sum | $_____ |
| 0009. | Optional Hopper Dredging and Disposal, 2009, complete | | | | |
| 0009AA. | First 700,000 CY | 700,000 | CY | $_____ | $_____ |
| 0009AB. | All Over 700,000 CY | 700,000 | CY | $_____ | $_____ |
| 0010. | Optional Clamshell Dredging and Disposal, 2009, complete | | | | |
| 0010AA. | First 300,000 CY | 300,000 | CY | $_____ | $_____ |
| 0010AB. | All Over 300,000 CY | 300,000 | CY | $_____ | $_____ |
| 0010AC. | All Over 600,000 CY (NEED OERMIT) | 300,000 | CY | $_____ | $_____ |

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# Payment By Surveys

AK

| Item No. | Description | Quantity | Unit | Unit Price | Amount |
|---|---|---|---|---|---|
| 0011. | Optional Additional Hopper Dredging and Disposal, 2009, complete (Need Permit) | | | | |
| 0011AA. | First 350,000 CY | 350,000 | CY | $_____ | $_____ |
| 0011AB. | All Over 350,000 CY | 350,000 | CY | $_____ | $_____ |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 0012. | Optional Second Clamshell Bid, Performance, and Payment Bond, Mobilization and Demobilization, Dredging and Disposal, 2009, complete (Need Permit) | | | | |
| 0012AA. | First 350,000 CY | 350,000 | CY | $_____ | $_____ |
| 0012AB. | All Over 350,000 CY | 350,000 | CY | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 0013. | Optional Pre-Dredge, Post-Dredge, and Intermediate Hydrographic Surveys, 2008, complete | | | | |
| | | 81 | EA | $_____ | $_____ |

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# Payment By Daily Rate

AK

## 0002. Mobilization and Demobilization, 2008, complete

| Item No. | Description | Quantity | Unit | Unit Price | Amount |
|---|---|---|---|---|---|
| 0002AA. | Hopper Dredge (1,300 to 2,500 CY Hopper Capacity) | 1 | Job | Lump Sum | $_____ |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 0002AB. | Hopper Dredge (2,501 to 3,700 CY Hopper Capacity) | 1 | Job | Lump Sum | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 0002AC. | Clamshell Dredge | 1 | Job | Lump Sum | $_____ |

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# Payment By Daily Rate

AK

| Item No. | Description | Quantity | Unit | Unit Price | Amount |
|---|---|---|---|---|---|
| 0003. | Hopper (1,300 to 2,500 CY Hopper Capacity) Dredging and Disposal, 2008, complete | | | | |
| 0003AA. | First 150 Days | 150 | Day | $_____ | $_____ |
| 0003AB. | All Over 150 Days | 30 | Day | $_____ | $_____ |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 0004. | Hopper (2,501 to 3,700 CY Hopper Capacity) Dredging and Disposal, 2008, complete | | | | |
| 0004AA. | First 150 Days | 150 | Day | $_____ | $_____ |
| 0004AB. | All Over 150 Days | 30 | Day | $_____ | $_____ |
| 0005. | Clamshell Dredging and Disposal, 2008, complete | | | | |
| 0005AA. | First 300,000 CY | 300,000 | CY | $_____ | $_____ |
| 0005AB. | All Over 300,000 CY | 300,000 | CY | $_____ | $_____ |
| 0006. | Pre-Dredge, Post-Dredge, and Intermediate Hydrographic Surveys, 2008, complete | | | | |
| | | 28 | EA | $_____ | $_____ |

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# Payment By Daily Rate

AK

## 0009. Optional Mobilization and Demobilization, 2009, complete

| Item No. | Description | Quantity | Unit | Unit Price | Amount |
|---|---|---|---|---|---|
| 0009AA. | Hopper Dredge (1,300 to 2,500 CY Hopper Capacity) | 1 | Job | Lump Sum | $_____ |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 0009AB. | Hopper Dredge (2,501 to 3,700 CY Hopper Capacity) | 1 | Job | Lump Sum | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 0009AC. | Clamshell Dredge | 1 | Job | Lump Sum | $_____ |

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# Payment By Daily Rate

AK

| Item No. | Description | Quantity | Unit | Unit Price | Amount |
|---|---|---|---|---|---|
| 0010. complete | Optional Hopper (1,300 to 2,500 CY Hopper Capacity) Dredging and Disposal, 2009, | | | | |
| 0010AA. | First 150 Days | 150 | Day | $_____ | $_____ |
| 0010AB. | All Over 150 Days | 30 | Day | $_____ | $_____ |

OR

| | | | | | |
|---|---|---|---|---|---|
| 0011. | Hopper (2,501 to 3,700 CY Hopper Capacity) Dredging and Disposal, 2009, complete | | | | |
| 0011AA. | First 150 Days | 150 | Day | $_____ | $_____ |
| 0011AB. | All Over 150 Days | 30 | Day | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 0012. | Clamshell Dredging and Disposal, 2009, complete | | | | |
| 0012AA. | First 300,000 CY | 300,000 | CY | $_____ | $_____ |
| 0012AB. | All Over 300,000 CY | 300,000 | CY | $_____ | $_____ |
| 0012AC. | All Over 600,000 CY | 300,000 | CY | $_____ | $_____ |
| 0006. | Pre-Dredge, Post-Dredge, and Intermediate Hydrographic Surveys, 2008, complete | | | | |
| | | | EA | $_____ | $_____ |

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# Optional Items

AK

## SPECIAL NOTE:

**FAR 52.217-0005 EVALUATION OF OPTIONS (JUL 1990): The Government will evaluate offers for price purposes by adding the total price of all options to the total price for the basic requirements. Evaluation of option(s) will not obligate the Government to exercise the option(s). CLINs 0010AC and (0011 or 0012) cannot be awarded prior to receipt of environmental permits authorizing dredging and disposal of an additional 1,000,000 cubic yards of material.**

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# Payment Methods

AK

Karl Harvey
Project Engineer

US Army Corps of Engineers
Alaska District

# Computing Pay Quantity for Hopper Dredge via Surveys

AK

- 3 survey's/week on MWF to avoid shipping traffic
- Contractor to perform standard survey comps with an adjustment for shoaling affe
- Steps to compute shoaling within hopper dredge area:

1. Raw Quantity Removed = Surface to Surface comparison using point files in hopper ar

2. Quantity Shoaled Over Interval = [raw qty removed] – [Qty removed to Max Pay]

3. Percentage of Area Covered = $\frac{\text{Area Covered by Hopper}}{\text{Total Area Available for Dredging in Area B}}$

4. Over-Dredging = Difference of fills to the max payline

# Hopper Payment Via Surveys

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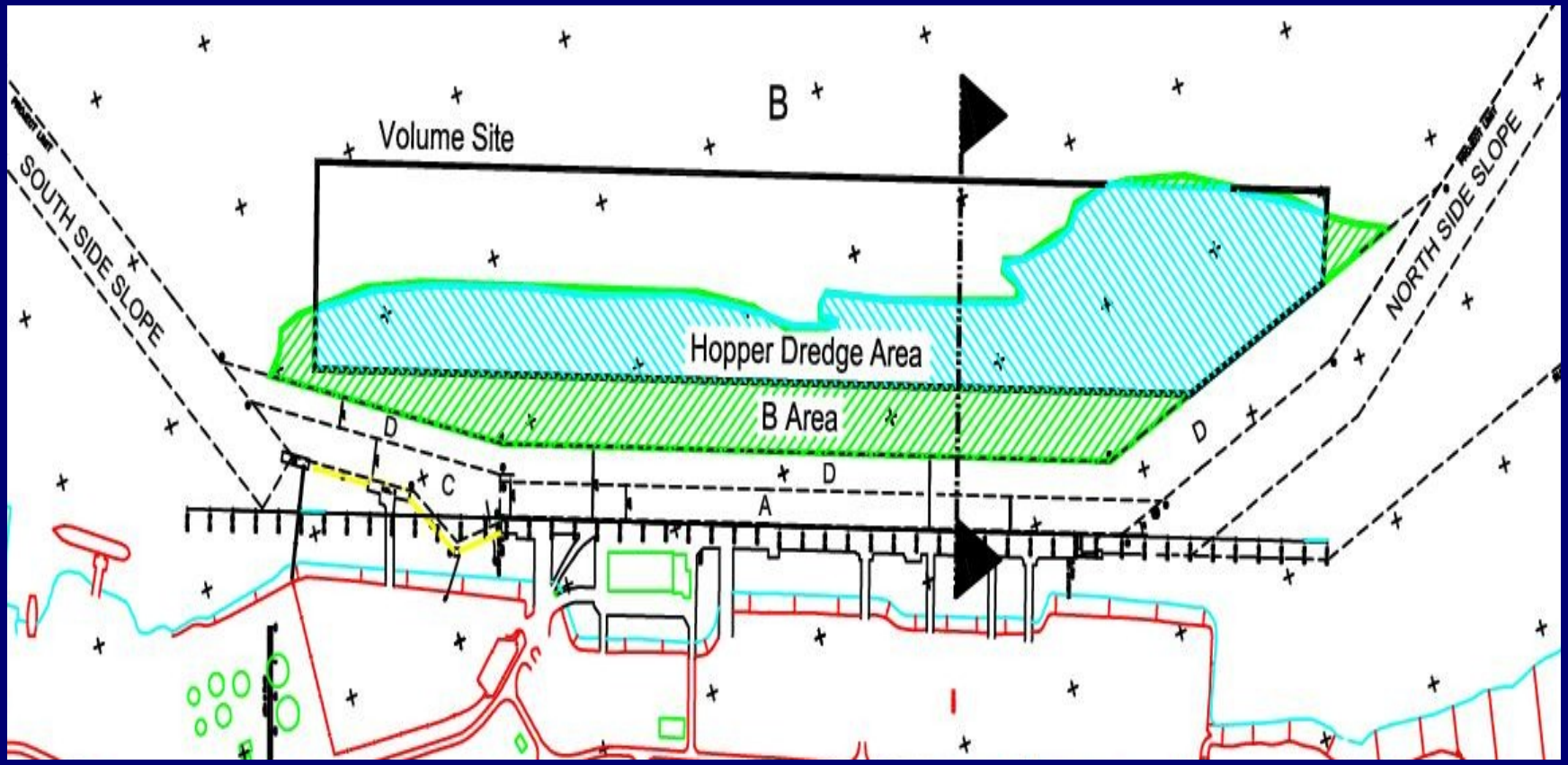
AK



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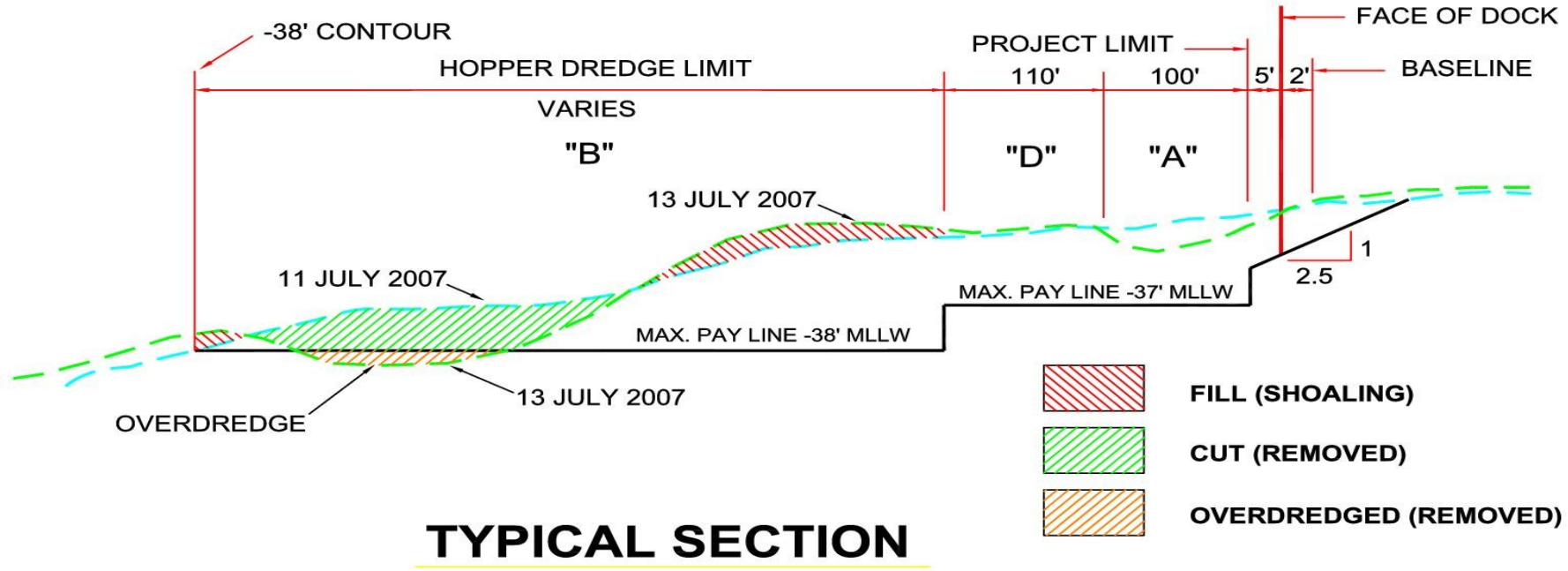
# 1. Raw Quantity Removed

AK




TYPICAL SECTION

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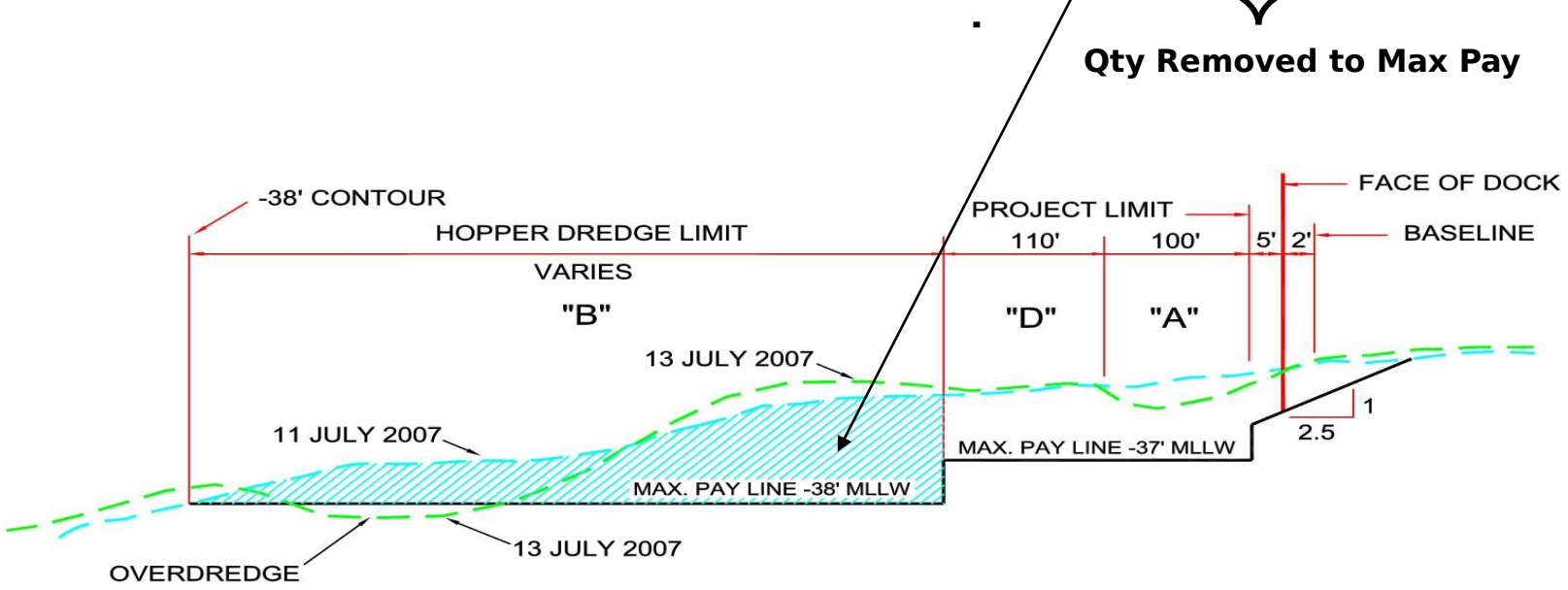
# 2. Quantity Shoaled Over Interval

AK

**Qty Shoaled Over Interval = Raw Qty Removed - (Qty Avail$_{1st\ survey}$ – Qty Avail $_{2nd\ Survey}$)**




**Quantity Available 11 July 2007**

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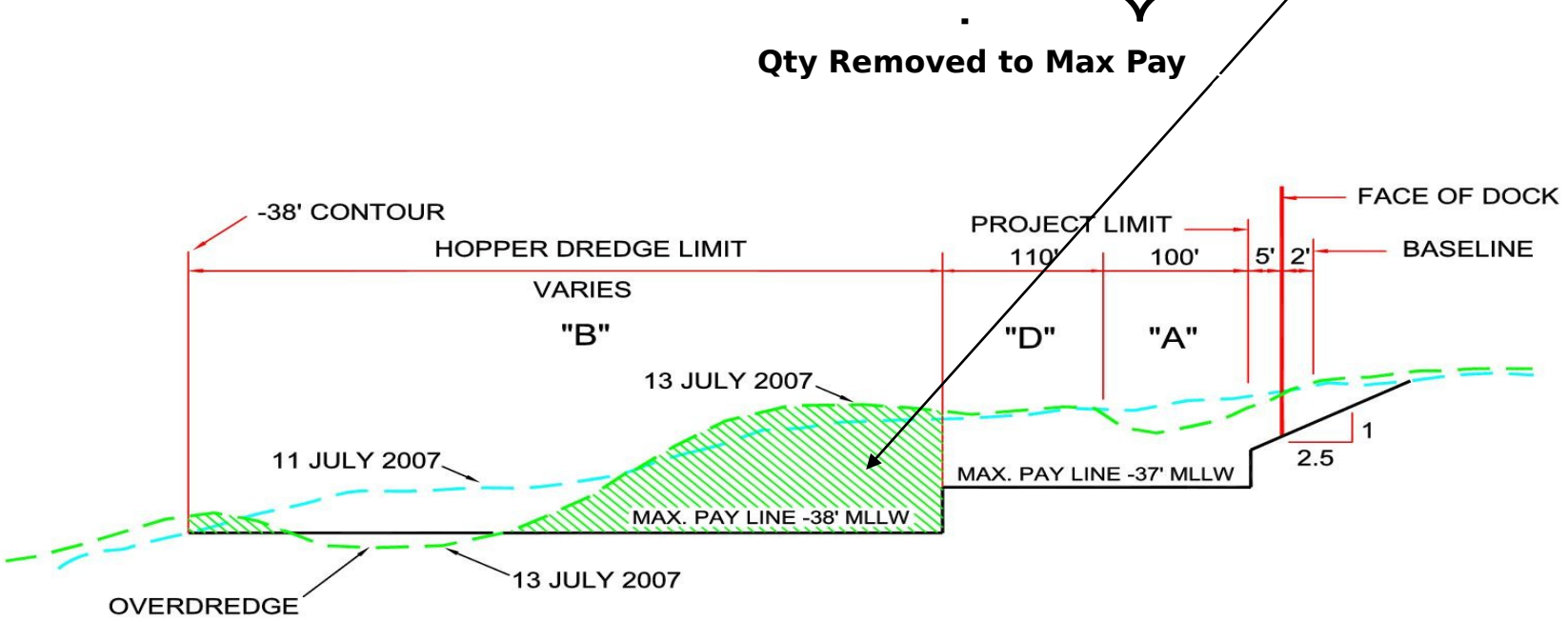
# 2. Quantity Shoaled Over Interval

AK

**Qty Shoaled Over Interval = Raw Qty Removed – (Qty Avail $_{1st\ Survey}$ – Qty Avail $_{2nd\ Survey}$)**




**Quantity Available 13 July 2007**

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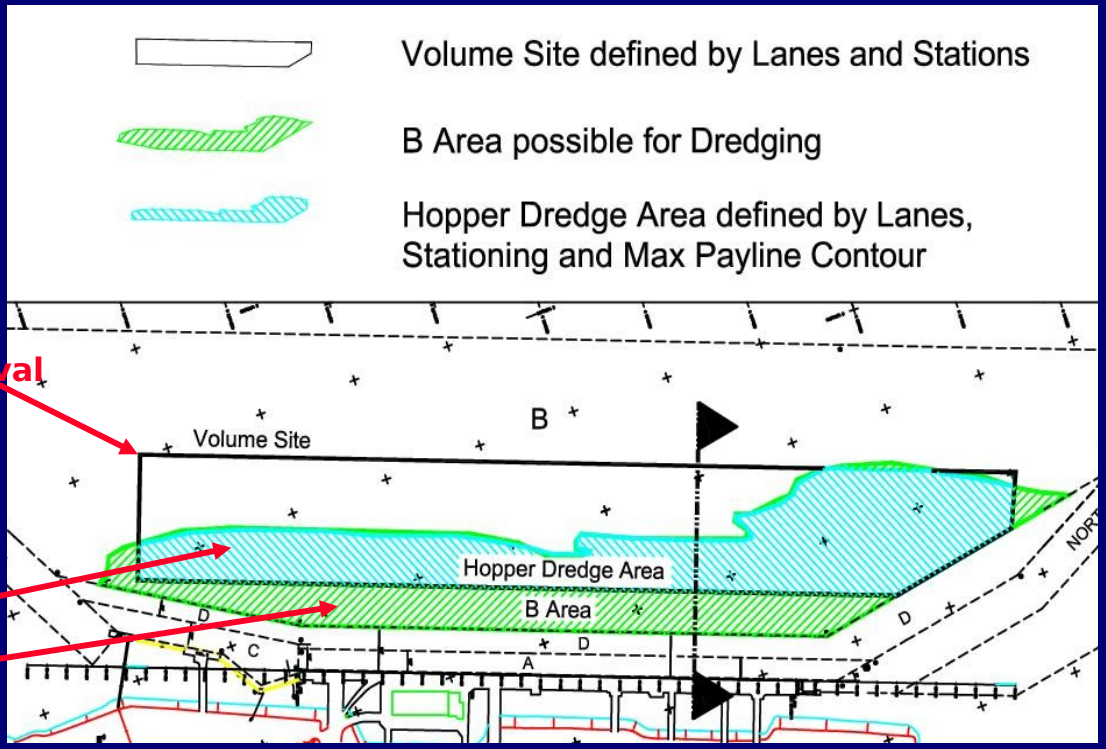
# 3. Percentage of Area Covered by Hopper for each Interval

AK



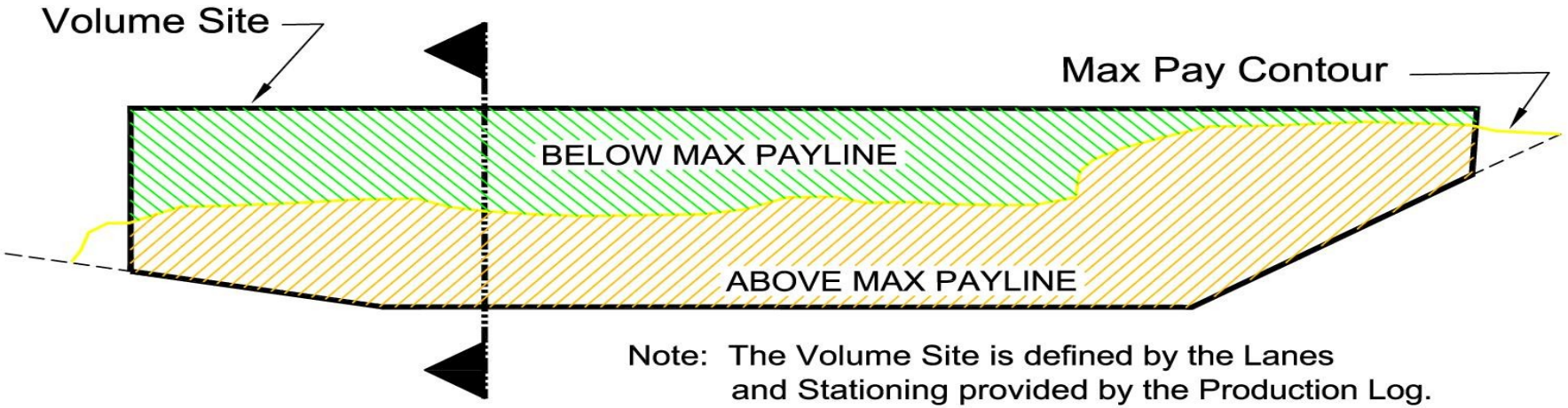

**Volume site varies depending on where dredge travels during interval**

**Ratio = Area covered by hopper / Area with material Available**

**Note that *"Area w/ Mat'l Available"* overlaps *"Area Covered by Hopper"***

# 3. Percentage of Area Covered by Hopper for each Interval




Volume Site
Max Pay Contour
BELOW MAX PAYLINE
ABOVE MAX PAYLINE
Note: The Volume Site is defined by the Lanes
and Stationing provided by the Production Log.

**HOPPER DREDGE AREA - PLAN VIEW**

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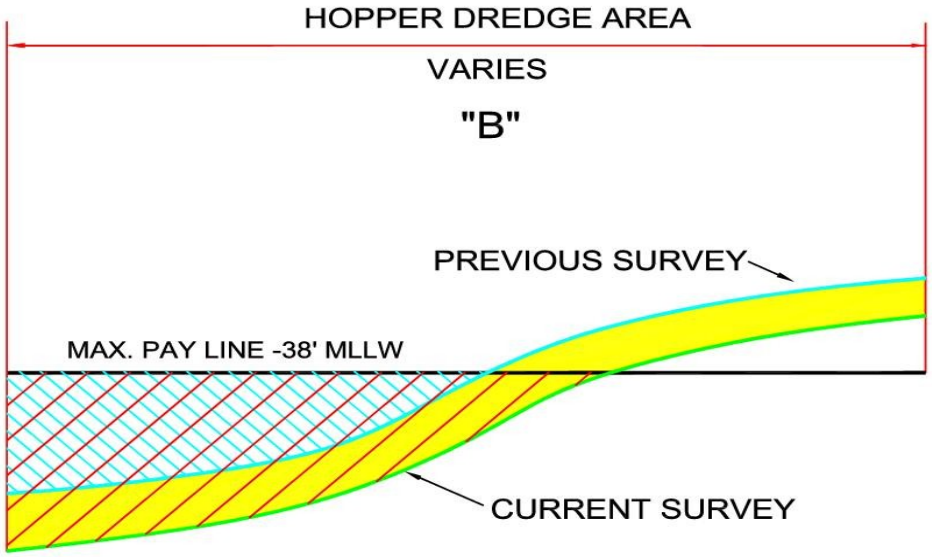
# 4. Calculating Over-Dredged Quantity

AK




**NOTE: IF THE CURRENT SURVEY HAS MORE "FILL" REQUIRED TO TO REACH PROJECT DEPTH THAN THE PREVIOUS SURVEY, THEN OVERDREDGING HAS OCCURED.**

**FILL** (CURRENT SURVEY TO MAXIMUM PAYLINE)

**FILL** (PREVIOUS SURVEY TO MAXIMUM PAYLINE)

**RAW CUT** (PREVIOUS vs.) CURRENT SURVEY)

**OVERDREDGED**

## DIFFERENCE OF FILLS TO MAX PAY EQUALS OVERDREDGING

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# PAYMENT BY SURVEYS

AK

| Survey Interval |
|---|
| 11 Jul – 13 Jul |
| 13 Jul – 16 Jul |
| 16 Jul – 18 Jul |
| 18 Jul – 20 Jul |
| 20 Jul – 23 Jul |

| Qty Avail 1st survey A | Qty Avail 2nd B | Qty Avail Change C=A-B | Raw Qty Removed to -38 D | Shoal Qty for Interval E = D-C | Ratio of Dredge Area F | Qty Adjusted for Shoal G = E * F |
|---|---|---|---|---|---|---|
| 87,500 | 85,000 | 2,500 | 10,000 | 7,500 | 69% | 5,175 |
| 85,000 | 89,152 | -4,152 | 7,500 | 11,652 | 75% | 8,739 |
| 89,152 | 89,000 | 152 | 5,000 | 4,848 | 85% | 4,121 |
| 89,000 | 79,000 | 10,000 | 10,000 | 0 | 90% | 18,035 |
| 79,000 | 70,000 | 9,000 | 7,000 | -2,000 | 94.4% | 0 |
| | | | 39,500 | | | |

Summary

| | |
|---|---|
| 39,500 cy | Raw Qty Removed |
| + 18,035 cy | Shoal Adjustment |
| - 5,000 cy | Over Dredge Qty |
| 52,535 cy | Total Payable Qty |

# HOPPER DREDGING

## PAYMENT BY DAILY RATE

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# Daily Rate Overview

AK

- Alternative method to survey computations-Reduces number of surveys required

- 4 Basic Pay Rates Depending on Equipment Perform and other factors (see following slides)

- 100%, 75%, 50%, 0%

- Can have a combination of pay rates in a given day
  - 100% rate x (14/24 hrs) + 75% rate (10/24 hrs)

- SI System must be fully operational for 100 and 75% pay rates to apply

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# Daily Rate Payment

AK

## 100% Pay Time Hours

**When all dredge pumps and drags are operable, the following will be paid at 100% of the applicable contract price per day, calculated to the nearest hour;**

- **Pumping time, turning time, travel to the disposal site, dumping time, and return travel time in either dredge and haul or agitation modes. The times listed represent the sequential order of the dredging cycle beginning with the pumping time as verified by SI System and certified QC Reports;**

- **Clearing fouled drag heads and or debris from the pump;**

- **Time to allow beluga whales to pass per section;**

- **Actual time for conducting the QA tests required by the Silent Inspector System**

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# Daily Rate Payment

AK

## 75% Pay Time Hours

**Same circumstance as 100% except when one dredge pump or drag arm is disabled for any reason**

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# Daily Rate Payment

AK

## 50% Pay Time Hours

**When all dredge pumps and drags are operable, but dredging is not possible due to no fault of the contractor, the following will be paid at 50% of the applicable contract price per day, calculated to the nearest hour:**

- **Inclement weather (high winds, snow storm, ice conditions)**

- **If the Government and Contractor agree that it is not economically feasible due to the lack of available material in dredging prism such that available material is 1 foot or less above max pay line;**

- **Government ordered for reasons other than those listed elsewhere in the contract;**

- **Impacts to dredging due to security measures while military vessels are at the Port of Anchorage**

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# Daily Rate Payment

AK

## 0% Pay Time Hours

**No payment for hopper dredge time will be made under this contract for:**

- **Lost time incurred at the direction of the Contractor;**
- **Repair or replacement of worn or unserviceable equipment resulting in the dredge not being operational;**
- **Taking on fuel, water and other supplies, including travel time to and from the lay-up or supply point;**
- **Dredging outside of prism, dredging below max pay line, misplacing material outside the disposal site and removing misplaced material.**
- **Shutdowns ordered by the COR for non-conformance with safety requirements;**
- **Shutdowns ordered by the COR for non-conformance with the plans and specifications;**

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# Clamshell - Scow Displacement

AK

- Volume measurement via standard scow displacement
- Contractor to measure full and empty scows with Government as witness.
- Contractor to notify Government 1-hour in advance to witness and record measurements, and must provide transportation to dredge
- Convert tonnage displacement to volume using certified chart

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# Expansion Project Overview

AK

Allen Churchill
Chief, Operations Branch

US Army Corps
of Engineers
Alaska District

# PORT EXPANSION

AK

**NOT**

IN

THIS

CONTRACT!!!

However:

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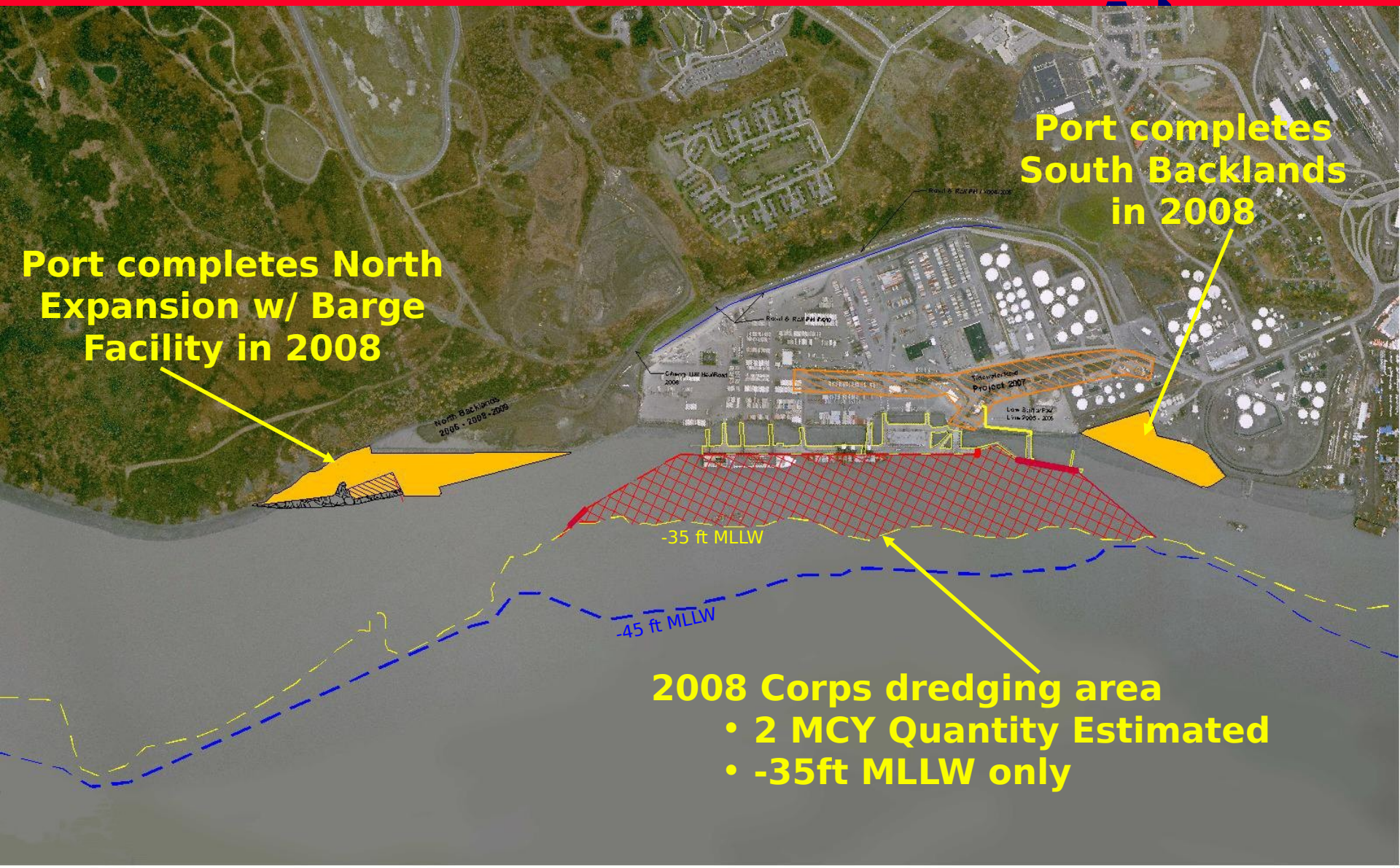
# 2007 – 2008 Work Plan

AK


Port completes South Backlands in 2008
Port completes North Expansion w/ Barge Facility in 2008
-35 ft MLLW
-45 ft MLLW
2008 Corps dredging area
• 2 MCY Quantity Estimated
• -35ft MLLW only

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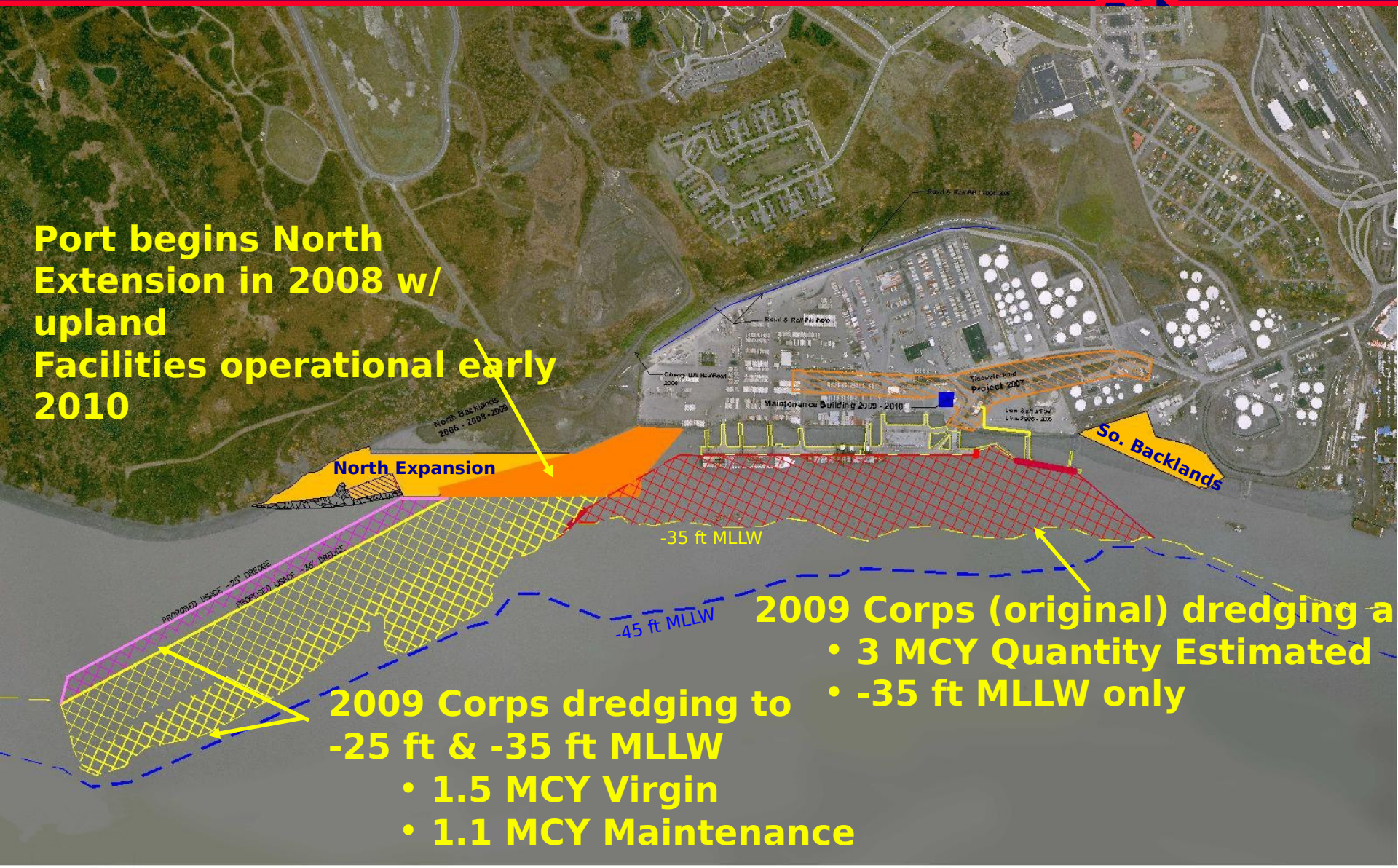
# 2008 – 2009 Work Plan

AK


Port begins North Extension in 2008 w/ upland Facilities operational early 2010
North Expansion
So. Backlands
Maintenance Building 2009 - 2010
-35 ft MLLW
-45 ft MLLW
2009 Corps (original) dredging a
• 3 MCY Quantity Estimated
• -35 ft MLLW only
2009 Corps dredging to -25 ft & -35 ft MLLW
• 1.5 MCY Virgin
• 1.1 MCY Maintenance

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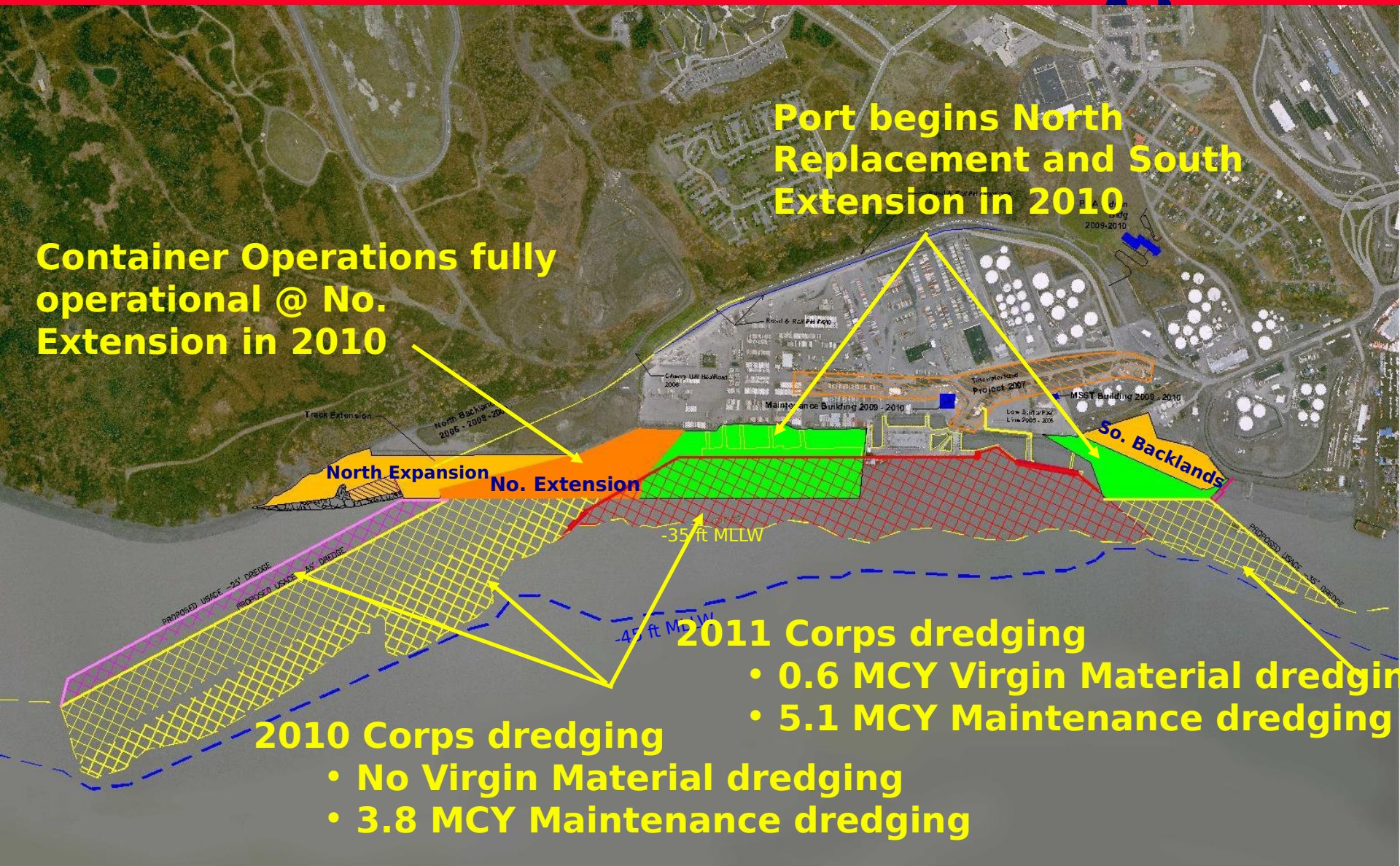
# 2010 – 2011 Work Plan

AK


Port begins North Replacement and South Extension in 2010
Container Operations fully operational @ No. Extension in 2010
North Expansion
No. Extension
So. Backlands
-35 ft MLLW
-45 ft MLLW
2011 Corps dredging
• 0.6 MCY Virgin Material dredgin
• 5.1 MCY Maintenance dredging
2010 Corps dredging
• No Virgin Material dredging
• 3.8 MCY Maintenance dredging

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# 2011 – 2012 Work Plan

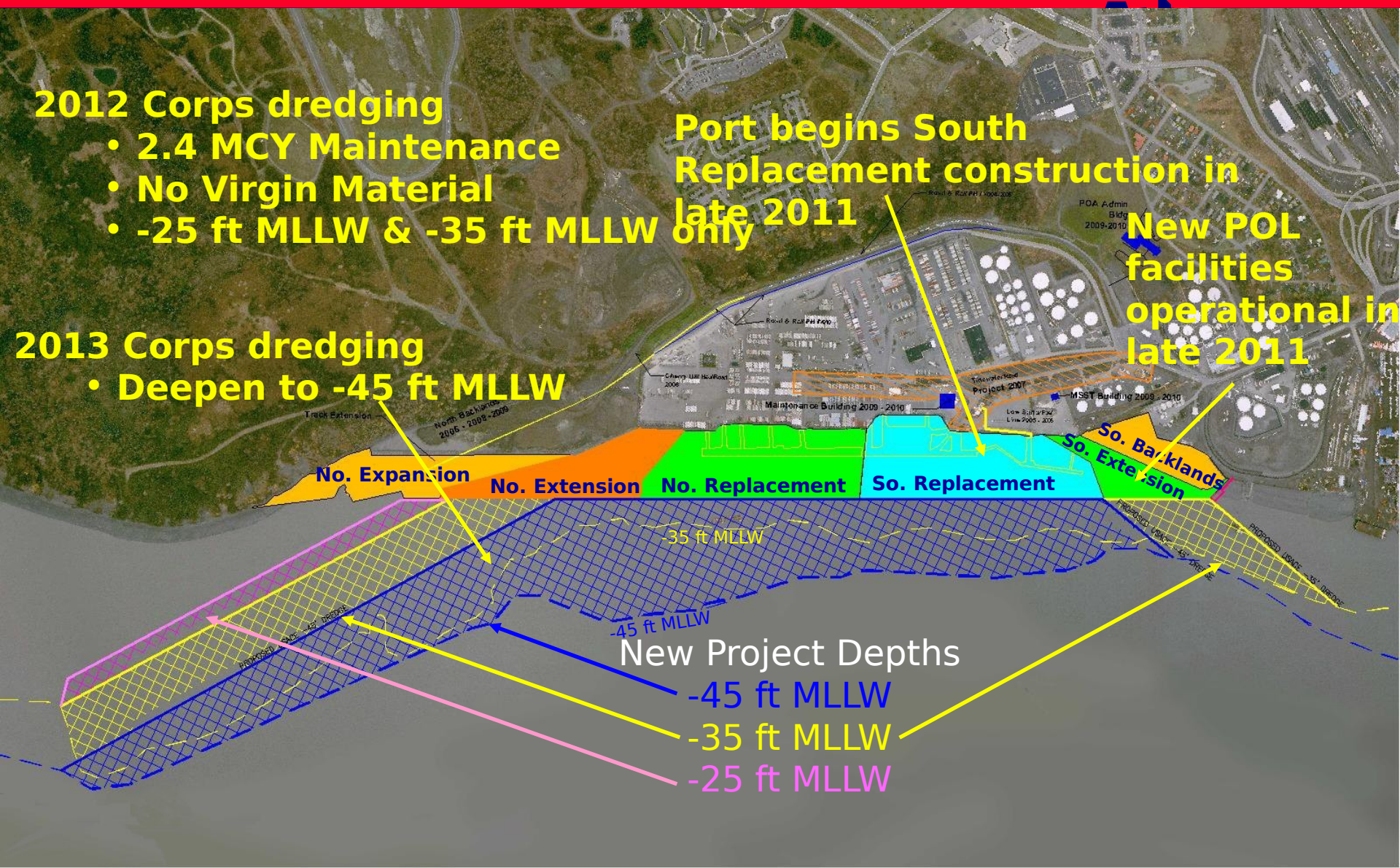
AK

**2012 Corps dredging**
- 2.4 MCY Maintenance
- No Virgin Material
- -25 ft MLLW & -35 ft MLLW only

**Port begins South Replacement construction in late 2011**

**New POL facilities operational in late 2011**

**2013 Corps dredging**
- Deepen to -45 ft MLLW



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# Estimated Quantities Summary

AK

| | Original Project | Expansion Area | | |
|---|---|---|---|---|
| Year | Maintenance | Virgin | Maintenance | Total |
| 2004 | 2,077,000* | 0 | 0 | 2,077,000* |
| 2005 | 1,793,000* | 0 | 0 | 1,793,000* |
| 2006 | 1,834,000* | 0 | 0 | 1,834,000* |
| 2007 | 2,000,000 | 0 | 0 | 2,000,000 |
| 2008 | 2,000,000 | 0 | 0 | 2,000,000 |
| 2009 | 3,000,000 | 1,463,000 | 1,131,000 | 5,594,000 |
| 2010 | 1,500,000 | 0 | 2,284,000 | 3,784,000 |
| 2011 | 1,500,000 | 553,000 | 3,633,000 | 5,686,000 |
| 2012 | 0 | 0 | 2,377,000 | 2,377,000 |
| 2013 | 0 | 0 | 2,250,000 | 2,250,000 |
| 2014 | 0 | 0 | 2,150,000 | 2,150,000 |
| 2015 | 0 | 0 | 2,100,000 | 2,100,000 |

* = Actual Quantity

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# Factors Affecting Schedule

AK

- DA Permit
  - Marine Mammal Protection Act
    - compliance w/ sheetpile driving noise levels
  - Permit Conditions
    - ERDC Review of Final Design
  - Beluga Listing
- Funding
  - Congressional Add vs O&M Budget

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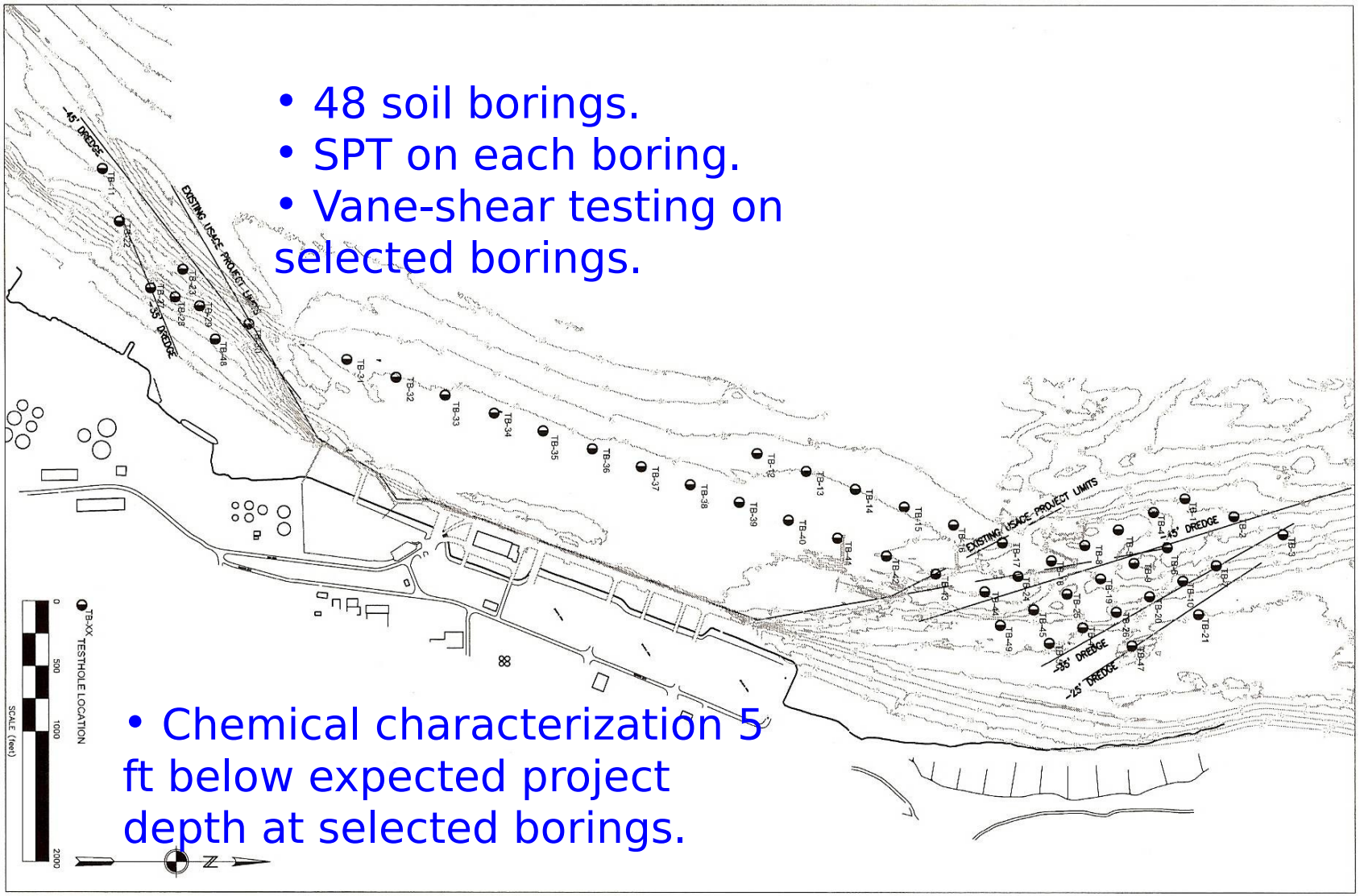
# Geotechnical Activities Underway

AK

- 48 soil borings.
- SPT on each boring.
- Vane-shear testing on selected borings.




- Chemical characterization 5 ft below expected project depth at selected borings.

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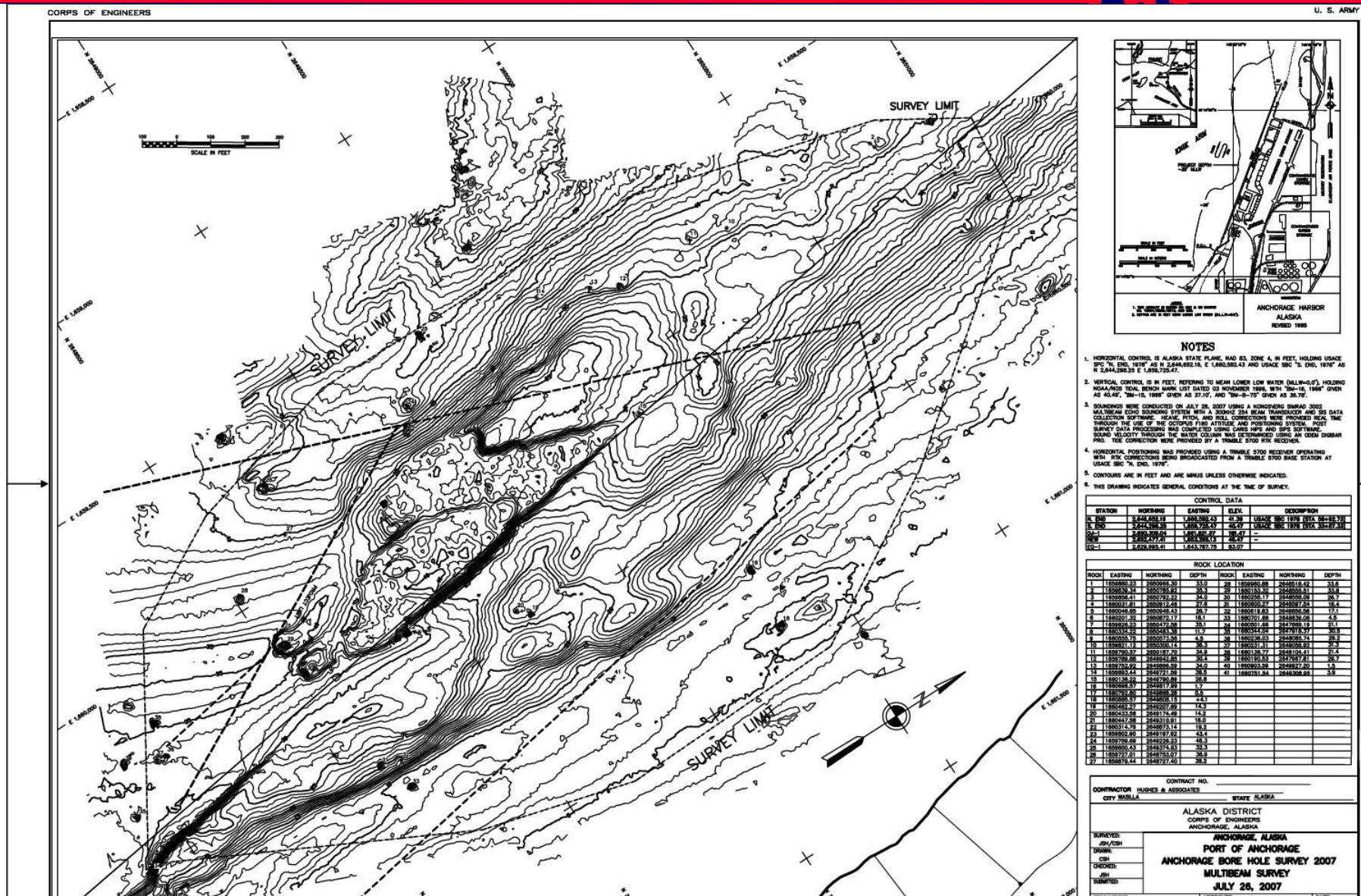
# North End Boulder Field

AK


CORPS OF ENGINEERS
U. S. ARMY
SURVEY LIMIT
SURVEY LIMIT
SURVEY LIMIT
SCALE IN FEET
ANCHORAGE HARBOR
ALASKA
REVISED 1995
NOTES
1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, NAD 83, ZONE 4, IN FEET, HOLDING USACE SPC "N. END, 1976" AS N 2,646,652.19, E 1,660,582.43 AND USACE SBC "S. END, 1976" AS N 2,644,298.25 E 1,659,725.47.
2. VERTICAL CONTROL IS IN FEET, REFERING TO MEAN LOWER LOW WATER (MLLW=0.0'), HOLDING NOAA/NOS TIDAL BENCH MARK LIST DATED 03 NOVEMBER 1995, WITH "BM--16, 1966" GIVEN AS 40.49', "BM--15, 1966" GIVEN AS 37.10', AND "BM--9-75" GIVEN AS 36.78'.
3. SOUNDINGS WERE CONDUCTED ON JULY 26, 2007 USING A KONGSBERG SIMRAD 3002 MULTIBEAM ECHO SOUNDING SYSTEM WITH A 300KHZ 254 BEAM TRANSDUCER AND SIS DATA COLLECTION SOFTWARE. HEAVE, PITCH, AND ROLL CORRECTIONS WERE PROVIDED REAL TIME THROUGH THE USE OF THE OCTOPUS F180 ATTITUDE AND POSITIONING SYSTEM. POST SURVEY DATA PROCESSING WAS COMPLETED USING CARIS HIPS AND SIPS SOFTWARE. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINDED USING AN ODEM DIGIBAR PRO. TIDE CORRECTION WERE PROVIDED BY A TRIMBLE 5700 RTK RECEIVER.
4. HORIZONTAL POSITIONING WAS PROVIDED USING A TRIMBLE 5700 RECEIVER OPERATING WITH RTK CORRECTIONS BEING BROADCASTED FROM A TRIMBLE 5700 BASE STATION AT USACE SBC "N. END, 1976".
5. CONTOURS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
6. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
CONTROL DATA
STATION | NORTHING | EASTING | ELEV. | DESCRIPTION
N. END | 2,646,652.19 | 1,660,582.43 | 41.39 | USACE SBC 1976 (STA 58+62.73)
S. END | 2,644,298.25 | 1,659,725.47 | 45.07 | USACE SBC 1976 (STA 33+97.33)
DJ--1 | 2,650,308.04 | 1,661,821.67 | 189.47 | --
RE9 | 2,652,477.41 | 1,663,366.13 | 48.47 | --
EQ--1 | 2,629,993.41 | 1,643,787.75 | 53.07 | --
ROCK LOCATION
ROCK | EASTING | NORTHING | DEPTH | ROCK | EASTING | NORTHING | DEPTH
1 | 1659860.33 | 2650968.30 | 33.0 | 28 | 1659990.88 | 2648518.42 | 33.6
2 | 1659839.34 | 2650783.92 | 35.3 | 29 | 1659913.39 | 2648508.91 | 34.8
3 | 1659831.41 | 2650739.82 | 34.2 | 30 | 1659900.06 | 2648507.54 | 35.7
4 | 1660031.81 | 2650912.46 | 27.8 | 31 | 1659903.27 | 2648507.54 | 19.4
5 | 1660046.06 | 2648648.43 | 35.7 | 32 | 1660018.63 | 2648539.06 | 27.1
6 | 1660021.32 | 2650872.17 | 18.1 | 33 | 1660010.65 | 2648539.06 | 4.5
7 | 1659939.23 | 2650172.58 | 39.1 | 34 | 1660001.66 | 2647898.19 | 23.1
8 | 1659939.23 | 2650172.58 | 39.1 | 35 | 1660034.22 | 2647911.37 | 30.5
9 | 1660055.75 | 2650073.06 | 4.5 | 36 | 1660236.03 | 2648085.74 | 29.2
10 | 1659821.12 | 2650300.14 | 38.3 | 37 | 1660231.31 | 2648058.92 | 31.3
11 | 1659953.14 | 2650167.70 | 34.2 | 38 | 1660139.77 | 2648104.41 | 21.4
12 | 1659799.88 | 2649942.85 | 30.4 | 39 | 1660180.53 | 2647907.81 | 29.7
13 | 1659733.92 | 2649988.59 | 34.0 | 40 | 1659963.59 | 2649927.20 | 1.5
14 | 1659953.14 | 2649721.59 | 36.5 | 41 | 1660751.84 | 2644308.95 | 3.9
15 | 1660136.22 | 2649790.89 | 26.8
16 | 1659946.37 | 2649617.29 | 1.7
17 | 1660127.80 | 2649858.56 | 0.0
18 | 1660095.57 | 2649808.15 | +4.1
19 | 1660048.19 | 2649207.89 | 14.3
20 | 1660033.06 | 2649174.49 | 14.3
21 | 1660447.36 | 2648310.91 | 18.0
22 | 1660114.50 | 2648973.14 | 19.2
23 | 1659902.90 | 2649197.92 | 43.4
24 | 1659759.69 | 2649228.23 | 48.3
25 | 1659660.43 | 2649374.61 | 53.3
26 | 1659727.01 | 2648753.07 | 38.9
27 | 1659879.44 | 2648727.40 | 39.2
CONTRACT NO.
CONTRACTOR HUGHES & ASSOCIATES
CITY WASILLA STATE ALASKA
ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA
SURVEYED: JSH/CSH
DRAWN: CSH
CHECKED: JSH
SUBMITTED:
ANCHORAGE, ALASKA
PORT OF ANCHORAGE
ANCHORAGE BORE HOLE SURVEY 2007
MULTIBEAM SURVEY
JULY 26, 2007

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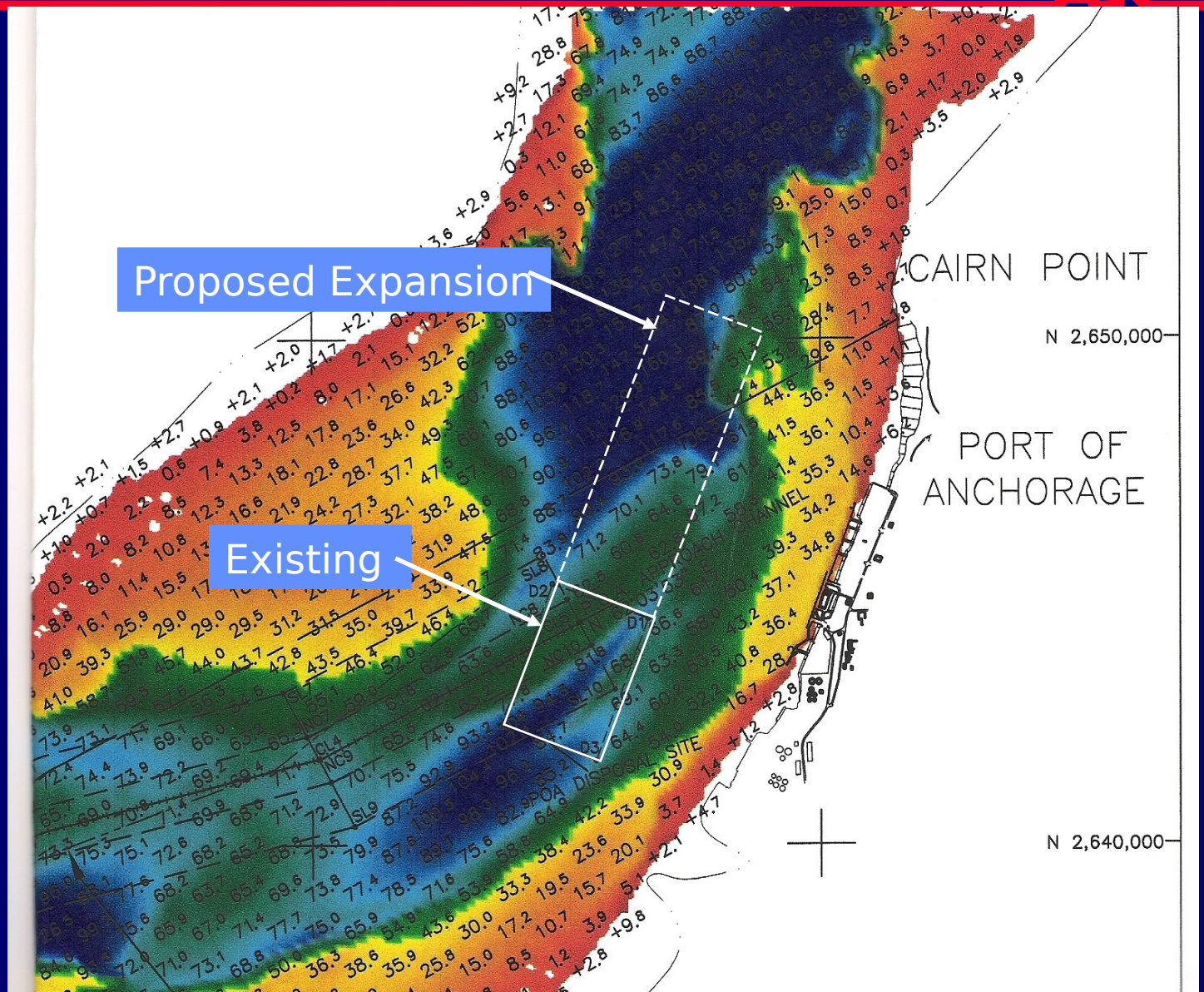
# Disposal Site Modification

AK



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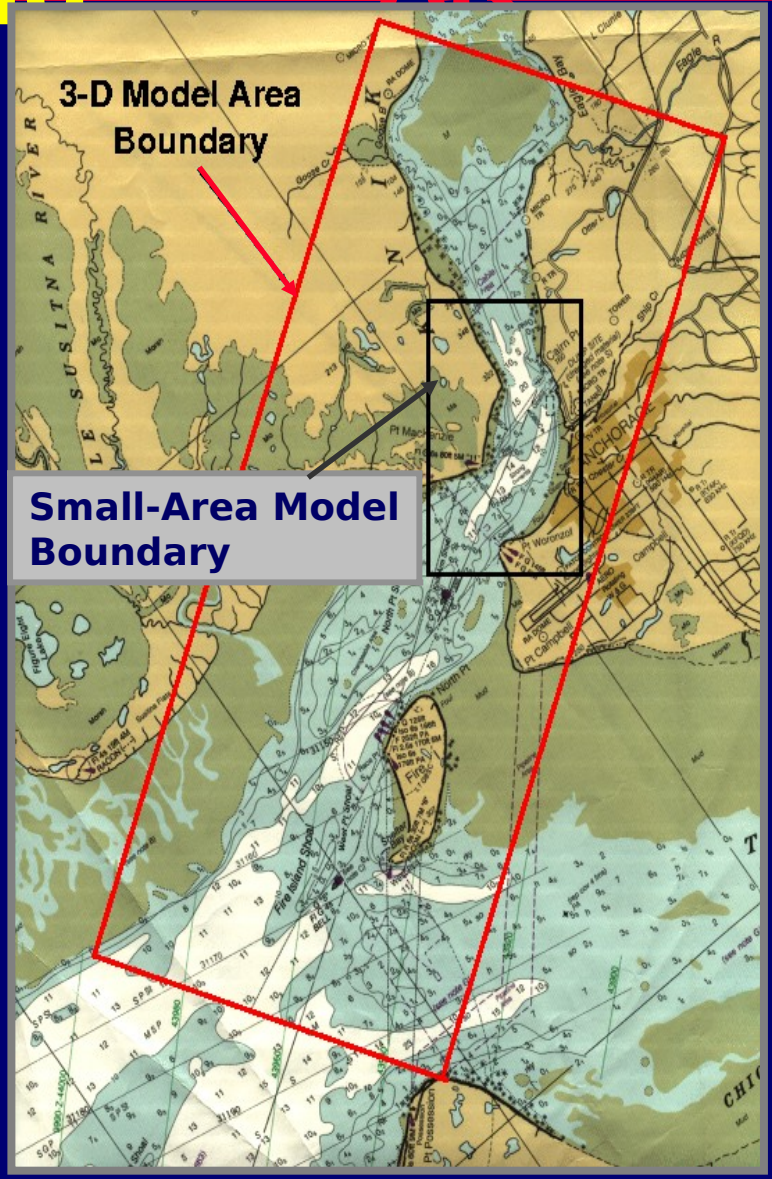
# Hydraulic Modeling

AK

## Small-Area Model

| Scale | Scale Value | Model Equivalence |
|---|---|---|
| Horizontal Scale | $N_X$ = 6,250 | 520 ft ≈ 1 in |
| Vertical Scale | $N_Z$ = 1,000 | 83 ft = 1 in |
| Velocity Scale | $N_V = \sqrt{N_Z}$ = 31.6 | 1.6 m/s = 5 cm/s |
| Discharge Scale | $N_Q = N_X N_Z^{3/2}$ = 197,642,354 | 203,000 m³/s = 1.03 liters/s |



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# Questions for Contractors

AK

- What dredging equipment would work best?
- Is it possible to dredge virgin materials and do maintenance dredging within the same area/same year? (e.g., North expansion area dredging)
- How would industry plan for (MARAD) dredging (within the 400-ft expansion area) in conjunction with (but separate from) Corps dredging requirements?
- What type of specifications do we need for specific equipment types, or should we specify at all?
- What additional data do we need to collect?
- Would sheet pile work conflict with dredging?
- When would be the best time to schedule the first Expansion dredging pre-solicitation conference? March ’08?

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# Additional Items for Discussion

AK

- Port Expansion
- ??

# Questions??

For more info:
http://www.usace.army.mil
or (907) 753-5618